Amendment to the Claims

In the Claims:

Please amend Claims 18, 19, and 21 as follows:

1. (Previously Presented) A computer-implemented method for allocating items to an available inventory of empty item slots, comprising the steps of:

determining a number of item slots available in an inventory that are empty, such that each item slot that is empty can be filled by either an item of a first type having a corresponding characteristic or an item of a second type having a corresponding characteristic, and wherein each item slot that is empty is filled by only a single item having the corresponding characteristic;

organizing the item slots that are empty into item slot groups, each different item slot group including only those item slots which can be filled by items having the same characteristic;

allocating each of a plurality of items of the first type to the item slots of the item slot groups that are unfilled by matching characteristics of the first type of items to characteristics of the item slot groups, such that allocating an item of the first type to an item slot fills the item slot with the item;

allocating each of a plurality of items of the second type to the item slots of the item slot groups that are unfilled by items of the first type by matching characteristics of the second type of items to the characteristics of the item slot groups, such that allocating an item of the second type to an item slot fills the item slot with the item; and

displaying the plurality of item slot groups as a histogram having a plurality of bars, where each bar corresponds to an item slot group and has a height corresponding to the number of item slots of the item slot group, wherein the bar has an indication as to how many of the number of item slots of the item slot group are filled and how many of the number of item slots of the item slot group are unfilled.

2. (Original) The method of claim 1, wherein each item comprises an ad and each item slot group comprises a web site, such that each item slot of the item slot group corresponds to an advertising space on the web site on which an ad can be shown.

3. (Previously Presented) The method of claim 2, wherein the first type of the plurality of items comprises sponsor ads, and the second type of the plurality of items comprises member ads.

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4. (Original) The method of claim 1, wherein each of the plurality of items of the first type has a fill quota, wherein allocating each of the plurality of the items of the first type comprises filling a number of item slots of the item slot groups that are unfilled with the item equal to the quota.

5. (Original) The method of claim 4, wherein allocating each of the plurality of the items of the first type further comprises filling the number of item slots of the item slot groups that are unfilled with the item equal to the quota proportionally as to the item slots unfilled of the item slot groups having characteristics matching the characteristics of the item.

6. (Original) The method of claim 1, wherein each of the plurality of items of the second type has a fill quota, wherein allocating each of the plurality of the items of the second type comprises filling a number of item slots of the item slot groups that are unfilled with the item equal to the quota.

7. (Original) The method of claim 6, wherein allocating each of the plurality of the items of the second type further comprises filling the number of item slots of the item slot groups that are unfilled with the item equal to the quota proportionally as to the item slots unfilled of the item slot groups having characteristics matching the characteristics of the item.

8. (Previously Presented) A computer-implemented method for allocating items to an available inventory of empty item slots, comprising the steps of:

determining a number of item slots available in an inventory that are empty, such that each item slot that is empty can be filled by either an item of a first type having a corresponding meta characteristic and no group characteristic, or an item of a second type having both a corresponding meta characteristic and a corresponding group characteristic, and wherein each item slot that is empty is filled by only a single item having the corresponding characteristic;

organizing the item slots that are empty into item slot groups, a different item slot group being constructed for each different group characteristic, such that each item slot that can be filled with an item having that group characteristic is included in that item slot group;

constructing a meta item slot group for each different meta characteristic that can be used to fill the item slots, each meta item slot group having a number of meta item slots equal to a total number of item slots that can be filled by items having that meta characteristic, each meta item slot being initially unfilled and able to be filled by an item having that meta characteristic;

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allocating each of a plurality of items of a first type over the meta item slots of the meta item slot groups that are unfilled by matching meta characteristics of the first type of items to the meta item slots, such that the meta item slots are filled only by items of the first type having the same meta characteristic, and allocating an item of the first type to a meta item slot fills the meta item slot with the item;

allocating each of a plurality of items of a second type over the meta item slots of the meta item slot groups that are unfilled by items of the first type by matching characteristics of the second type of items to the characteristics of the meta item slot groups, such that the meta item slots are filled only by items of the second type having the same meta characteristic, and allocating an item of the second type to a meta item slot fills the meta item slot with the item, thereby determining a number of items of the second type required to fill all meta item slots unfilled by items of the first type;

for each item of the second type that is allocated to a meta item slot, also allocating that item of the second type to an item slot that is unfilled by matching characteristics of the item of the second type to the characteristics of the item slot groups, such that each item slot is filled only by items of the second type having the same group characteristic and the same meta characteristic, and allocating an item of the second type to an item slot fills the item slot with the item; and

for each item of the first type that is allocated to a meta item slot, also allocating that item of the first type to an item slot that is unfilled by an item of the second type by matching characteristics of the first type of items to characteristics of the item slots, such that each item slot is filled only by items of the first type having the same meta characteristic, and allocating an item of the first type to an item slot fills the item slot with the item, thereby allocating items to an available inventory of empty item slots.

9. (Previously Presented) The method of claim 8, further comprising:

displaying the plurality of item slot groups as a first histogram having a plurality of bars, where each bar corresponds to an item slot group and has a height corresponding to the number of item slots of the item slot group, wherein the bar has an indication as to how many of the number of item slots of the item slot group are filled and how many of the number of item slots of the item slot group are unfilled; and,

displaying the plurality of meta item slot groups as a second histogram having a plurality of bars, where each bar corresponds to a meta item slot group and has a height

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corresponding to the number of meta item slots of the meta item slot group, wherein the bar has an indication as to how many of the number of meta item slots of the meta item slot group are filled and how many of the number of meta item slots of the meta item slot group are unfilled.

10. (Previously Presented) The method of claim 8, wherein each item comprises an ad, each item slot group comprises a web site, and each meta item slot group comprises at least one web site having similar characteristics, such that each item slot of the item slot group corresponds to an advertising space on the web site on which an ad can be shown, and each meta item slot of the meta item slot group corresponds to an advertising space on a web site of the meta item slot group on which an ad can be shown.

11. (Original) The method of claim 10, wherein the first type of the plurality of items comprises member ads, and the second type of the plurality of items comprises sponsor ads.

12. (Original) The method of claim 8, wherein each of the plurality of the items of the first type and each of the plurality of the items of the second type has a fill quota, wherein allocating each of the plurality of the items comprises filling a number of item slots that are unfilled with the item equal to the quota.

13. (Previously Presented) A computer-implemented method for allocating items to an available inventory of empty item slots, comprising the steps of:

determining a number of item slots available in an inventory that are empty, such that each item slot that is empty can be filled by an item of a first type having a corresponding meta characteristic and no group characteristic, an item of a second type having a corresponding meta characteristic and a corresponding group characteristic, or an item having a corresponding meta characteristic, a corresponding group characteristic, and a corresponding sub group characteristic, and wherein each item slot that is empty will be filled by only a single item having the corresponding characteristics;

organizing the item slots that are empty into sub item slot groups, each item slot being initially unfilled and able to be filled by an item, such that each different sub item slot group includes only those item slots that can be filled by items having the same meta group, group, and sub group characteristics;

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organizing the sub item slot groups into item slot groups, such that each different item slot group includes only those sub item slot groups whose item slots can be filled by items having the same meta and group characteristics;

constructing a meta item slot group for each different meta characteristic that can be used to fill an item slot, each meta item slot group having a number of meta item slots equal to a total number of item slots that can be filled by items having the same meta characteristic, each meta item slot being initially unfilled and able to be filled by an item having a corresponding meta characteristic, an item having a corresponding meta characteristic and a corresponding group characteristic, or an item having a corresponding meta characteristic, a corresponding group characteristic, and a corresponding sub group characteristic, and wherein a meta item slot that is empty is filled by only a single item having the corresponding characteristics;

allocating a plurality of items of a first type over the meta item slots of the meta item slot groups that are unfilled by matching meta characteristics of the first type of items to meta characteristics of the meta item slot groups, such that allocating an item to a meta item slot fills the meta item slot with the item;

allocating each of a plurality of items of a second type over the meta item slots of the meta item slot groups that are unfilled, the item slots of the item slot groups that are unfilled, and the item slots of the sub item slot groups that are unfilled, by matching characteristics of the second type of items to respective characteristics of the meta item slot groups, of the item slot groups, and of the sub item slot groups, such that allocating an item to an item slot fills the item slot with the item, and allocating an item to a meta item slot fills the meta item slot with the item; and,

allocating each of a plurality of items of a second type over the meta item slots of the meta item slot groups that are unfilled by items of the first type, by matching meta characteristics, group characteristics, and sub group characteristics of the second type of items to respective characteristics of the meta item slots, such that allocating an item to an item slot fills the item slot with the item, thereby determining how many items of the second type are needed to fill the meta item slots unfilled by items of the first type;

for each item of the second type that is allocated to a meta item slot, also allocating that item of the second type to an item slot that is unfilled by matching meta, group, and sub group characteristics of the item of the second type to the meta, group, and sub group characteristics of the

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item slot, such that each item slot is filled only by items of the second type having the corresponding meta, group, and sub group characteristics, and allocating an item of the second type to an item slot fills the item slot with the item; and

for each item of the first type that is allocated to a meta item slot, also allocating that item of the first type to an item slot that is unfilled by an item of the second type by matching meta characteristics of the first type of items to meta characteristics of the item slots, such that each item slot is filled only by items of the first type having the same meta characteristic, and allocating an item to an item slot fills the item slot with the item, thereby allocating items to an available inventory of empty item slots.

14. (Previously Presented) The method of claim 13, further comprising the steps of:

displaying the plurality of item slot groups as a first histogram having a plurality of sub-bars organized into a plurality of bars, where each sub-bar corresponds to a sub item slot group and has a height corresponding to the number of item slots of the sub item slot group, wherein the sub-bar has an indication as to how many of the number of item slots of the sub item slot group are filled and how many of the number of item slots of the sub item slot group are unfilled; and,

displaying the plurality of meta item slot groups as a second histogram having a plurality of bars, where each bar corresponds to a meta item slot group and has a height corresponding to the number of meta item slots of the meta item slot group, wherein the bar has an indication as to how many of the number of meta item slots of the meta item slot group are filled and how many of the number of meta item slots of the meta item slot group are unfilled.

15. (Previously Presented) The method of claim 13, wherein each item comprises an ad, each item slot group comprises a web site, each sub item slot group comprises a viewer type of web site, and each meta item slot group comprises at least one web site having similar characteristics, such that each item slot of the sub item slot group corresponds to an advertising space on the web site on which an ad can be shown to a particular viewer type, each item slot of the item slot group corresponds to an advertising space on the web site on which an ad can be shown, and each meta item slot of the meta item slot group corresponds to an advertising space on a web site of the meta item slot group on which an ad can be shown.

16. (Original) The method of claim 15, wherein the first type of the plurality of items comprises member ads, and the second type of the plurality of items comprises sponsor ads.

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17. (Original) The method of claim 13, wherein each of the plurality of the items of the first type and each of the plurality of the items of the second type has a fill quota, wherein allocating each of the plurality of the items comprises filling a number of item slots that are unfilled with the item equal to the quota.

18. (Currently Amended) A computer-implemented method for distributing items of a first type and items of a second type into item slots arranged in a plurality of item slot groups, wherein items of the second type are defined with a greater granularity than items of the first type, such that items of the second type can have group and meta characteristics, while items of the first type have meta characteristics but not group characteristics, comprising the steps of:

providing:

a plurality of items of the first type, each item of the first type having a meta characteristic;

a plurality of items of the second type, each item of the second type having both a group characteristic and a meta characteristic;

a plurality of item slots, such that a number of item slots provided is equal to a number of empty slots available in an inventory, each item slot ~~has~~ having both a meta characteristic and a group characteristic, each item slot ~~is initially~~ being unfilled, each item slot ~~is~~ being able to be filled by an item of the first type having a corresponding meta characteristic, and each item slot ~~is~~ being able to be filled by an item of the second type having the corresponding meta characteristic and ~~the~~ a corresponding group characteristic;

using the plurality of item slots, constructing a plurality of item slot groups, such that item slots having the same group characteristic are included in the same item slot group;

constructing a meta item slot group for each different meta characteristic, each meta item slot group so constructed including a number of meta item slots equal to the number of the item slots sharing the same meta characteristic, each meta item slot being initially unfilled, and able to be filled by either an item of the first type having the same meta characteristic, or an item of the second type having the same meta characteristic;

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allocating each of the plurality of items of the first type over the meta item slots that are unfilled by matching meta characteristics of the first type of items to meta characteristics of the meta item slots, such that allocating an item to a meta item slot fills the meta item slot with the item;

allocating each of the plurality of items of the second type over the meta item slots that are not already filled by items of the first type, by matching meta characteristics of the second type of items to meta characteristics of the meta item slots, such that allocating an item to a meta item slot fills the meta item slot with the item, thereby determining a number of items of the second type required to fill all meta item slots unfilled by items of the first type;

for each item of the second type allocated over a meta item slot, also allocating that item of the second type over an item slot in an item slot group by matching meta and group characteristics of the item of the second type to respective meta and group characteristics of the item slot, such that allocating an item to an item slot fills the item slot with the item; and

for each item of the first type allocated over a meta item slot, also allocating that item of the first type over an unfilled item slot in an item slot group by matching meta characteristics of the item of the first type of items to meta characteristics of the item slot, such that allocating an item to an item slot fills the item slot with the item, thereby distributing items of the first type and items of the second type into item slots arranged in a plurality of item slot groups.

19. (Currently Amended) A computer-implemented method for distributing items of a first type and items of a second type into item slots arranged in a plurality of sub item slot groups and item slot groups, wherein items of the second type are defined with a greater granularity than items of the first type, comprising the steps of:

providing:

a plurality of items of the first type, each item of the first type having a meta characteristic;

a plurality of items of the second type, each item of the second type having a sub group characteristic, a group characteristic, and a meta characteristic;

a plurality of item slots, <u>such that a number of item slots provided is equal to a number of empty slots available in an inventory,</u> each item slot having a meta characteristic, a group characteristic, and a sub group characteristic, each item slot being initially unfilled and able to be filled by an item of the first type having the corresponding meta characteristic and no group

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characteristic, and each item slot being able to be filled by an item of the second type having the corresponding meta characteristic, the corresponding group characteristic, and the corresponding sub group characteristic, wherein an item slot that is empty is filled by only a single item having the corresponding characteristics;

organizing the plurality of item slots into sub item slot groups, such that each different sub item slot group includes only those item slots that can be filled by items having the same meta characteristics, group characteristics, and sub group characteristics;

organizing the sub item slot groups into item slot groups, such that each different item slot group includes only those sub item slot groups whose item slots can be filled by items having the same meta characteristics and group characteristics;

constructing a meta item slot group for each different meta characteristic of the item slots, each meta item slot group including a number of meta item slots equal to the number of the item slots having the same meta characteristic, each meta item slot being initially unfilled and able to be filled by an item of the first type having the corresponding meta characteristic, and an item of the second type having the corresponding meta characteristic, the corresponding group characteristic, and the corresponding sub group characteristic, such that an empty meta item slot is filled by only a single item having the corresponding characteristic;

allocating each of the plurality of items of the first type over the meta item slots that are unfilled by matching meta characteristics of the first type of items to the meta item slots, such that allocating an item to a meta item slot fills the meta item slot with the item;

allocating each of the plurality of items of the second type over the meta item slots that are not already filled by items of the first type, by matching meta characteristics, group characteristics, and sub group characteristics of the second type of items to the meta item slots, such that allocating an item to a meta item slot fills the meta item slot with the item, thereby determining a number of items of the second type required to fill all meta item slots unfilled by items of the first type;

for each item of the second type that is allocated over a meta item slot, also allocating that item of the second type over an item slot in a sub item slot group by matching meta characteristics, group characteristics, and sub group characteristics of the second type of items to the item slots, such that allocating an item to an item slot fills the item slot with the item, thereby filling the item slots with the same number of items of the second type that filled the meta item slots;

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for each item of the first type allocated over a meta item slot, also allocating that item of the first type over an unfilled item slot in an item slot group by matching meta characteristics of the item to meta characteristics of the item slot, such that allocating an item to an item slot fills the item slot with the item, thereby distributing items of the first type and items of the second type into item slots arranged in a plurality of sub item slot groups.

20. (Previously Presented) A computer-implemented method for allocating items to an available inventory of empty item slots, comprising the steps of:

determining a number of item slots available in an inventory that are empty, such that each item slot that is empty can be filled by either an item of a first type having a corresponding broad characteristic and no narrow characteristic, or an item of a second type having both a corresponding broad characteristic and a corresponding narrow characteristic, and wherein each item slot that is empty is filled by only a single item having the corresponding characteristic;

organizing the item slots that are empty into item slot groups, such that each item slot group includes only those item slots that can be filled by items of the second type having the same narrow characteristic;

constructing a meta item slot group for each different broad characteristic that can be used to fill the item slots, each meta item slot group having a number of meta item slots equal to a total number of item slots that can be filled by items having that broad characteristic, each meta item slot being initially unfilled, and able to be filled by an item having the same broad characteristic;

allocating a plurality of items of a first type over the meta item slots by matching broad characteristics of the first type of items to broad characteristics of the meta item slot, such that allocating an item of the first type to a meta item slot fills the meta item slot with the item;

allocating a plurality of items of a second type over the meta item slots that are not filled by items of the first type by matching broad characteristics of the second type of items to broad characteristics of the meta item slot, such that allocating an item of the second type to a meta item slot fills the meta item slot with the item, thereby determining how many items of the second type can be accommodated in the item slots;

for each item of the second type that is allocated to a meta item slot, also allocating that item of the second type to an item slot that is unfilled, by matching narrow characteristics of the second type of items to narrow characteristics of the item slot, such that allocating an item of the

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second type to an item slot fills the item slot with the item, thereby filling a first portion of the item slots;

for each item of the first type that is allocated to a meta item slot, also allocating that item of the first type to an item slot that is unfilled by an item of the second type, by matching broad characteristics of the first type of items to broad characteristics of the item slot, such that allocating an item of the first type to an item slot fills the item slot with the item, thus filling the remaining portion of the item slots, thereby allocating items of the first type and the second type to the available inventory of empty item slots.

21. (Currently Amended) A computer-implemented method comprising the steps of:

constructing a plurality of item slot groups, each item slot group having a number of item slots, each item slot initially unfilled and able to be filled by an item, such that a total number of item slots in the plurality of item slot groups is equal to a number of empty slots available in an inventory;

constructing a plurality of meta item slot groups, each meta item slot group encompassing at least one item slot group and having a number of meta item slots equal to a total number of item slots of the at least one item slot group the meta item slot group encompasses, each meta item slot initially unfilled and able to be filled by an item;

allocating each of a plurality of items of a first type over the meta item slots of the meta item slot groups that are unfilled by matching characteristics of the first type of items to characteristics of the meta item slot groups, such that allocating an item to a meta item slot fills the meta item slot with the item, each item of the first type not having any characteristics corresponding to a specific item slot group;

allocating each of a plurality of items of a second type over both the meta item slots of the meta item slot groups that are unfilled and the item slots of the item slot groups that are unfilled by matching characteristics of the second type of items to the respective characteristics of the item slot groups and the meta item slot groups, such that allocating an item to an item slot fills the item slot with the item, and allocating an item to a meta item slot fills the meta item slot with the item; and,

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for each meta item slot group, allocating each of the plurality of items of the first type that have been allocated to a meta item slot over the item slots of the at least one item slot group encompassed by that meta item slot group that are unfilled, such that allocating an item to an item slot fills the item slot.

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